

Appln. No. 10/519,895
Amendment dated: 1/8/2007
Reply to Office Action of July 7, 2006

REMARKS

Claims 1,4 and 7-8 were rejected by the Examiner under 35 U.S.C. 102(b) as being anticipated by United States Patent Publication No. 2002/0003684 to Nakashio.

Applicant notes that 35 U.S.C. 102(b) provides that: “A person shall be entitled to a patent unless . . .(b) the invention was patented or described in a printed publication in this or a foreign country, more than one year prior to the date of the application for patent in the United States” The MPEP further provides “. . . for anticipation under 35 USC 102, the reference must teach every aspect of the claimed invention either explicitly or impliedly.” MPEP 706.02(IV).

In the Office Action, the Examiner finds that “It is well known in the art, and acknowledged and confirmed by the applicant . . . that NiFe is a soft magnetic metal suitable for using in magnetic shielding layers. Therefore Nakashio et al. teach at least one of the plurality of layers having the same material as at least one of the magnetic shield layers.” The Examiner, therefore, relies upon Applicant’s specification to teach certain aspects of the invention rather than looking to Nakashio to teach each and every aspect of the claimed invention either explicitly or impliedly as required by 35 U.S.C. 102(b). Because Nakashio et al does not teach each and every aspect of the claimed invention as required by 35 U.S.C. 102(b), Applicant asserts that the Examiner’s rejection of claims 1, 4, and 7-8 is improper and respectfully requests that the rejection be withdrawn.

Additionally, Applicant notes that although the Examiner finds that Nakashio teaches that the magnetization layer 31 can be formed from NiFe and the Examiner finds that the use of NiFe for the magnetic shielding layers is known, there is no

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assertion by the Examiner that Nakashio teaches that the magnetization layer is to be formed from the same material as one of the magnetic shield layers. In fact, Nakashio provides that "the fixed magnetization layer 31 has a three-layer structure in which for example, an NiFe layer . . . , IrMn layer . . . and a CoFe layer are laminated one on the other. . ." Nakashio, paragraph 88. Nakashio further provides, "the lower and upper shielding layers 24 and 29 are formed each from an amorphous lamination layer of CoZrNbTa . . ." Nakashio, paragraph 97. CoZrNbTa of the lower and upper shielding layers is not the same as NiFe, IrMn or CoFe of the magnetization layer. Thus, Nakashio teaches forming of layer 31 from a different material than the material from which the magnetic shielding layers 24, 29 are formed. Because Nakashio does not teach "at least one of the plurality of layers and at least one of said magnetic shield layers having a same material" claim 1 is not anticipated by Nakashio.

Applicant further notes that Nakashio as described in the abstract is directed toward "A magnetic tunnel effect type magnetic head . . ." and teaches the formation of such structure only with respect to a magnetic head. In contrast, Applicant's invention is directed toward memory devices formed on a substrate and in particular MRAM type devices. The shielding of Applicant's invention provides shielding of an entire array of memory devices. Applicant asserts therefore that Nakashio is non-analogous with respect to Applicant's invention and further that one of ordinary skill in the art would not look to the magnetic head devices of Nakashio in order to provide shielding of an entire array of memory devices.

Claims 3-7 depend from claim 1. Applicant asserts that because claim 1 is allowable, claims 3-7 are also allowable.

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Claim 8 includes the limitation that the target used in forming at least one of the shield layers is the same as the target for forming a layer located between the magnetic shield layers. As discussed above with respect to claim 1, Nakashio does not teach formation of a layer between the magnetic shielding layers and the formation of a magnetic shielding layer from the same material. Thus, the Examiner's finding that Nakashio "implies that these layers could be formed in a single sputtering chamber" is incorrect. Applicant respectfully requests that the Examiner's rejection of claim 8 be withdrawn.

Claims 3, 5 and 6 were rejected under 35 U.S.C. 103(a). Claims 3, 5, and 6 depend from claim 1. Applicant asserts that because claim 1 is allowable for the reasons stated above, claims 3, 5, and 6 are also allowable. Applicant respectfully requests that the Examiner rejection of claims 3, 5 and 6 be withdrawn.

Newly Added Claims

Claims 9-13 have been added in this amendment. Independent claim 9 includes the limitation that at a plurality of the memory devices are arranged in an array and at least one of the magnetic shield layers extends across substantially the entire array of memory devices. Independent claim 12 includes the limitation that said first magnetic shield layer is formed across substantially the entire substrate which includes a plurality of memory devices.

Applicant asserts that none of the references cited by the Examiner anticipates or renders obvious the invention of claims 9 and 12 and therefore respectfully requests consideration and allowance of claims 9 and 12.

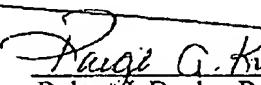
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Claims 10 and 11 depend from claim 9. Applicant asserts that because claim 9 is allowable claims 10 and 11 are also allowable. Claim 13 depends from claim 12. Applicant asserts that because claim 12 is allowable claim 13 is also allowable.

Applicant asserts that each of the pending claims is in condition for allowance. Should the Examiner find that the amendments made herein are insufficient to overcome the prior art, Applicant requests that the Examiner contact the undersigned attorney to discuss the same.

Respectfully submitted,

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